IGPP Sponsored Seminar

October 15, 2009

10:30-11:30

EES Division Conference Room, Room 217

URBAN AIR POLLUTION CLIMATES THROUGHOUT THE WORLD

Michael Evan Goodsite

National Environmental Research Institute

Department of Atmospheric Environment

Aarhus University, Denmark

In addition to other adverse health effects air pollution is estimated to cause about 2 million premature deaths worldwide annually.[1] In this context particulate matter (PM) is generally believed to be the most hazardous of ambient pollutants, and it has been estimated that reducing ambient air concentrations of PM_{10} from 70 to 20 $\mu g/m^3$, would lower the number of air quality related deaths by approximately 15%.[1] More than half of the world's population reside in cities,[2] where the highest air pollution exposure[3] and associated negative health impact take place. Furthermore the projections for the next 50 years indicate that the worldwide urban population will increase by two thirds.[2] Urban air pollution has been increasing in major cities, especially those found in developing countries (such as in: Brazil, Russia, India, Indonesia and China) as a result of rapid urbanisation. The cost to society of the associated health effects is significant and has been estimated to be approximately 2% of the Gross Domestic Product (GDP) in developed countries and 5% of GDP in developing countries (http://www.unep.org/urban_environment/issues/urban_air.asp). There are may also be associated losses in productivity.[4]

This talk expands on the chapter Urban Air Pollution Climates Throughout The World published (Hertel and Goodsite, in Press in Issues in Environmental Science and Technology: edited by Roy Harrison) and will focus on issues related to India as the authors are working with the University of Delhi and other Indian partners to Establish a natural science Urban Climate Change Research Center.